



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,831	11/20/2003	Hironori Kakiuchi	890050.449	8570
500 7590 09/03/2008 SEED INTELLECTUAL PROPERTY LAW GROUP PLLC 701 FIFTH AVE SUITE 5400 SEATTLE, WA 98104			EXAMINER ANGEBRANNDT, MARTIN J	
			ART UNIT 1795	PAPER NUMBER
			MAIL DATE 09/03/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/717,831	Applicant(s) KAKIUCHI ET AL.	
	Examiner Martin J. Angebranndt	Art Unit 1795	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/20/2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,7,10,13,16,19,22 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,7,10,13,16,19,22 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/11/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1795

1. The response of the applicant has been read and given careful consideration. Response to the arguments and amendments are presented after the first rejection to which they are directed. The applicant requested a copy of the IDS of 5/11/07 with references BG through BJ initialed. This is included in this mailing. While the references may be of recording in the other applications, if they were not applied in a rejection but only provided by the applicant as part of a large IDS, their relevance may be somewhat limited.
2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3,7,10,13,16,19,22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuy et al. '160, in view of Sakaue et al. '587 and Takaoka et al. '321

Shuy et al. '160 teach in embodiment 4, a medium comprising a polycarbonate substrate, a ZnS-SiO₂ layer, a transparent Si first recording layer, a reflective Si-Au second recording layer and a ZnS-SiO₂ layer. The ZnS-SiO₂ layers are thermal manipulation layers [0030]. The reflective recording layer may be Ag, Al, Au, Pt, U, IN, Sn, W, Ir, Re, Rh or Ta [0027]. The transparent recording layer may be Si, Ge, GaP, GaAs, InAs, ...[0026].

Sakaue et al. '587 in the recording medium of working example 1, where Ta₂O₅ sputtered in a mixture of Ar and N₂ to form the barrier layer [0061] between the recording layer and the reflective layer or dielectric layers. [0036,0054-0062]. The use of other materials including GeON, SiON or AlON in place of the TaON is disclosed. [0068]. See also example 3, and the

Art Unit: 1795

examples described in table 3 [0079-0089]. The use of TaON yields a better signal amplitude, reduced corrosion and improved thermal conductivity (heat dissipation). [0072-0073].

Takaoka et al. '321 (US equivalent of JP 60-160036 cited by applicant) teaches optical recording media where the recording layer is a bilayer which is alloyed upon irradiation. Useful first layer materials are Ge, Te, Bi, Tl and alloys thereof and useful second layer materials are different from those of the first layer and may be selected from Te, Bi, Sb, Ag, In and alloys thereof. (2/49-63). Figures 9 and 10 show embodiments where there are two recording layers, which doubles the recording capacity of the media. (4/60-5/9).

It would have been obvious to modify the cited examples of Shuy et al. '160 by using Ta-O-N as thermal manipulation layers in place of a portion of the thickness of the ZnS-SiO₂ layers directly adjacent the recording layer with a reasonable expectation of improving the performance characteristics based upon the disclosure of Sakaue et al. '587 and further, it would have been obvious to modify the resulting optical recording media by forming a medium with two recording layers are included in a single medium structure to increase (double) the recording capacity as shown in Takaoka et al. '321 with a reasonable expectation of success based upon figures 9 and 10.

Further it would have been obvious to use Si or Ge for the first recording layer and Cu and alloys thereof with Al, Ag, Au or Sn for the second layer based upon the direction within Shuy et al. '160 to these materials and the direction within Takaoka et al. '321 to the use of alloys in each of the layers.

The addition of Takaoka et al. '321 addresses the multiple recording layer limitations set forth in claim 1. The replacement of at least a portion of the ZnS-SiO₂ layers

Art Unit: 1795

on both sides of the recording composite places the recited layer on the light incident side of the recording composite. The advantages in the transmissivity of the dielectric layers seems to be at 6-10% [0173] for tantalum and 1.7 to 4.5 for titania [0187]. This is not recited in the claims, but should be. With respect to the relative performance of the media (example 3), there seems to be an optimization in the thickness of the dielectric layers and the applicant might consider either including limitations stating thicknesses or minimum performance to exclude the prior art of record.

While the examples of Sakaue et al. '587 disclose the use of the oxynitride layers as a barrier layer on both sides of the recording layer as it is a barrier layer, irrespective of what may be illustrated or discussed in an example. The claims do not preclude the use of the oxynitride layers on both sides of the recording layer due to the use of open "comprising" language in the claims and the rejection discusses placing them between the recording layer and the dielectric layers to prevent migration of materials into or out of the recording layer as taught by Sakaue et al. '587. Claim 3 recites that the dielectric is ZnS-SiO₂, so the statement of the rejection and the teachings of the references address the embodiments of the claims, specifically where a TiON or TaON layer is between the recording layer and the ZnS-SiO₂. The arguments of the applicant are incongruent with the claims and fails to appreciate the statement of rejection. While Takaoka et al. '321 may address the recording layers from different sides, there are no layers between the recording layers which would preclude both being addressed from one side and the Shuy et al. '160 reference does not include a non-alloying reflective layer, so light can be incident from either side. The claims now also recite this.

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or

Art Unit: 1795

improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1,2,7,10,13,16,17,19 and 22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/684981 (US 2004/0076907).

It would have been obvious to use the dielectric layers described in claims 1 and 2 in the claimed optical recording media of 10/684981, but having different compositions and including additives to the Cu layer (cl 4).

This is a provisional obviousness-type double patenting rejection.

(appeal 12/12/2007)

The applicant argues that as allowance of the instant application has not been reached, the terminal disclaimers need not be filed. This position is reasonable, but would delay allowance if those were the only remaining issues. The applicant also argues that the prosecution of at least some of the other applications is behind that of the instant application, so they would not issue later. This position neglects the fact, that while the PTO controls the allowance of the

Art Unit: 1795

application, it has no control over delays in issuance due to other factors, such as the speed at which fees are paid, and so it can easily be envisioned that the order of issuance would differ from the order of allowance. The claim 1 of 10/684981 allows the first and second dielectric layer to be on the same side.

6. Claims 1-3,7,10,13,16,19,22 and 25 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-19 of copending Application No. 10/764805 (US 2004/0157158) in view of Sakaue et al. '587 or Uno et al. '239.

It would have been obvious to modify the claimed optical recording media of 10/764805 by using Ta-O-N as the first dielectric layers on both sides of the recording layer (claim 7) with a reasonable expectation of forming a useful optical recording medium based upon the disclosure of Sakaue et al. '587 or Uno et al. '239.

This is a provisional obviousness-type double patenting rejection.

Final rejection 04/04/07

The response above is relied upon as no separate arguments were directed at this rejection.

7. Claims 1-3,7,10,13,16,19,22 and 25 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-26 of copending Application No. 10/792083 (US 2004/0174804) in view of Sakaue et al. '587 or Uno et al. '239.

It would have been obvious to modify the claimed optical recording media of 10/612615 by using Ti-O-N as one of the light transmission layers, in place of TiO with a reasonable

Art Unit: 1795

expectation of forming a useful optical recording medium based upon the disclosure of Sakaue et al. '587 or Uno et al. '239.

This is a provisional obviousness-type double patenting rejection.

Nonfinal rejection 04/05/07

The response above is relied upon as no separate arguments were directed at this rejection.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J. Angebrannndt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1795

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Martin J Angebranndt/
Primary Examiner, Art Unit 1795

Martin J Angebranndt
Primary Examiner
Art Unit 1795

3/5/2008